HAWORTH

Neurodiversity: Comparing Sensory Needs in the Workplace

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Abstract

Building on our previous Affordances and Resilience at Work research, we aimed to answer several core questions regarding the similarities and differences of workplace experiences between those who consider themselves neurodivergent (ND) and those who do not (neurotypical; NT). In this study, we identified sensory triggers at work, assessed the impact of these elements, and examined responses to positive and negative environmental experiences. We also explored how individuals adapted to their environment, and analyzed how job demands, job resources, work policies, and culture influenced the workplace experience for ND respondents compared to NT respondents. Additionally, we learned which sensory elements in the workplace are considered helpful and which are harmful. Through our comprehensive research, we found valuable insights that can inform the creation of more supportive and inclusive workplaces.

Keywords

- Neurodiversity
- Neurodivergence
- Neurotypes
- Inclusive Design
- Well-Being
- Human Performance
- Evidence-Based
- Stress
- Sensory Sensitivity
- Culture of Belonging

Takeaways

Neurotypical and neurodivergent individuals have different sensory needs and experience spaces differently. Supporting employee well-being and performance encompasses meeting the needs of a neurodiverse workforce.

To create a culture of belonging, it's important for organizations to provide employees with: a comfortable, thoughtfully designed work environment; supportive policies; a positive workplace culture; and a job that is aligned to their skills.

Inclusive design considers the full range of human diversity to create a variety of spaces and products that offer different audio, visual, and tactile experiences, as well as supportive tools, enabling everyone to participate with a sense of belonging.

Cultivating a workplace that is built on trust and belonging means understanding and supporting people with a variety of backgrounds, experiences, and neurological profiles. Diverse hiring practices can unlock a wide range of talent and knowledge that might otherwise be overlooked, and there are many organizational benefits that come with hiring employees with diverse backgrounds. Diverse teams are 70% more likely to capture new markets, and inclusive companies are 120% more likely to hit financial goals.[1] Additionally, 76% of respondents say that a diverse workforce is an important factor when evaluating companies and job offers.[2]

Supportive hiring practices are the first step, but the work does not stop there. Once employees are hired and onboarded, it's important for organizations to provide a comfortable and thoughtfully designed work environment, supportive policies, a positive workplace culture, and a job that is aligned to their skills. According to the World Health Organization (WHO), poor working environments—including those with job discrimination and inequality, excess workloads, low job control, and job insecurity—pose a risk to mental health. Globally, mental health conditions like depression and anxiety cost $1 trillion per year in lost productivity,[3] and individuals who identify as ND frequently report worse depression, anxiety and quality of life scores than their NT peers.[4] Fortunately, there has been a positive shift in global organizations focusing on support for the mental health and well-being of employees in the workplace.

Supporting employee well-being encompasses meeting the needs of a neurodiverse workforce. To do this, inclusive design practices can guide the way. Inclusive design draws on the full range of human diversity to create spaces and products that enable everyone to participate with a sense of belonging. To design inclusively, we must discern the specific group of people who use each space and examine exclusions and adaptations they are currently making when interacting with those spaces. This provides the understanding necessary to design a better experience. When inclusive design is fully integrated into the design process, the number of people who can and want to use a product or space expands.

In this study, we interviewed and surveyed office employees, with the purpose of learning how differences in neurological profiles shape the in-office experience. The office can cause distractions for many people. Our research focused on discovering if certain in-office experiences—with the environment, job demands, policy, and cultural support—have a different level of impact on employees who are ND compared to those who are NT.

Neurodiversity[5]: Refers to the natural range of differences in individual brain function and behavioral traits. The concept emphasizes that these variations are normal for the human population.

Neurotypical: A term used to describe individuals whose neurological development and functioning align with societal expectations of what is considered the neurological norm.

Neurodivergent[6]: Refers to differences in how a person's brain functions, impacting the way they behave, think, and interact with the world. These differences are natural variations.

Neurotype[7]: A fundamental aspect of a person's identity that pertains to how their brain learns, communicates, and develops. More specifically, the term "neurotype" can be used to describe the kind of brain a person has or identifies as having. Neurotypes include, but are not limited to, Autism Spectrum Disorder (ASD), Attention Deficit/Hyperactivity Disorder (ADHD), intellectual disabilities, dyslexia, dyspraxia, Obsessive Compulsive Disorder (OCD), and Post-Traumatic Stress Disorder (PTSD). Each neurotype can bring distinct strengths and valuable perspectives. For an expanded list, refer to the glossary at the end of this white paper.

We acknowledge and respect the sensitive and personal nature of both, identity-first and person-first language. For purposes of this report, we use identity-first language when describing ND and NT findings.

Understanding Neurodiversity and Neurodivergence

Neurodiversity describes the range of differences and individual brain functions that exist throughout humankind. Much like biodiversity in nature, humans need neurodiversity to thrive.[8] It's important to note that neurodivergence is not a medical term, a diagnosis, or something curable. Supporting a range of neurotypes in the workplace is important, and the diversity of experience can bring many strengths to organizations.

> Neurodiverse teams can boost productivity by over 30%.[9]

Globally, there has been an increase in recognizing the importance of neurodiversity. This is due to growing awareness and improved diagnostic practices, access to resources and support, and decreased stigma.[10] **Current statistics suggest that 15–20% of the world's population exhibits some form of neurodivergence.**[11] This number is likely to increase. A 2023 study reported that over half of Gen Z respondents identified as "definitely" (22%) or "somewhat" (31%) ND.[12] In 2024, Gen Z workers constituted about 18% of the United States workforce; this will grow to 30% by 2030. That's about 50 million Gen Zers at work,[13] with 25 million or more identifying as ND.

1. CECP, 2018
2. Glassdoor, 2021
3. World Health Organization, 2024
4. Kroll et al., 2024
5. Oxford University Press, 2024
6. Cleveland Clinic, 2024
7. Bowlby and Eveson-Egler, 2024
8. Miralles et al., 2021
9. Austin et al., 2017
10. Psychology Today, 2023
11. Doyle, 2020
12. Business Wire, 2023
13. Trendlines, 2024

> "Neurodiversity may be every bit as crucial for the human race as biodiversity is for life in general. Who can say what form of wiring will prove best at any given moment?"
>
> **Harvey Blume**
> *The Atlantic,* 1998

Understanding differences in neurology is important to workplace design because of the complex and varied ways individuals across the neurodiversity spectrum respond to the same environment and deem it helpful or harmful. If we can identify workplace elements that have a positive impact for ND individuals, many of the same elements can support the workforce in its entirety. This starts with understanding the sensory system.

Importance of the Sensory System

The astounding complexity of our world demands that humans interpret its signals through a variety of sensory inputs. Beyond sight, hearing, touch, taste, and smell, there are less well-known senses that allow us to perceive our body's movement through space as well as our body's internal signals. Despite similarities among humans, interpersonal variations in sensory systems can substantially alter how we interact with our environment.

ND individuals often experience heightened sensory sensitivities, which can take the form of either sensory processing disorder (SPD) or sensory processing sensitivity (SPS). SPD is a condition of the brain that makes it difficult to interpret and respond to information gathered from the senses.

While it exists independently of other conditions, SPD is commonly experienced along with ADHD, ASD, learning disabilities like dysgraphia, and generalized anxiety disorder.[14] SPD can also lead to stress, anxiety, or depression.[15] Conversely, SPS is used to describe an individual trait that focuses on how people process sensory input from their external environment as well as their internal processes.[16] Over 94% of adults with autism experience sensory differences that impact their daily life in significant ways.[17] Further, an estimated 30% of the population is thought to have SPS and be highly sensitive[18] but does not necessarily identify as ND. SPD and SPS have some key differences, however both can cause individuals to experience their environment differently than individuals who do not report sensory issues.

People with sensory sensitivities can be hypersensitive (over-responsive) and experience a heightened response to sensory input. For instance, someone with visual hypersensitivity may perceive lighting that is not an issue to others as too bright, causing headaches, eye pain, and feelings of fuzziness in the brain. Others can be hyposensitive (under-responsive) and may have a reduced response to sensory stimuli. For example, a person who has auditory hyposensitivity may need more auditory input to hear and interpret what is going on around them or concentrate on work. A third type of sensory processing sensitivity describes those who may be driven to seek out sensory stimulation.[19] Sensory seeking could involve walking to gather thoughts, as the movement can help the individual process and explain complex ideas. The complexity builds further because there is no binary of individuals who are entirely hyper- or hyposensitive; one person can be either for different senses. The sensitivity with which someone perceives their environment can also vary day-to-day or even within moments, and what could be harmful at one time could be helpful the next.

The Eight Senses[20]

Sense	Hyper-Sensitive	Hypo-Sensitive
Visual (Sight) Provides information about objects and people; helps us navigate spaces and interact with our surroundings.	• Avoids environments that are visually overwhelming • Sensitive to bright lights and sunlight • Startled by moving objects	• Enjoys bright lights, reflective surfaces, or spinning objects • Misses objects in competing backgrounds
Auditory (Hearing) Provides information about sounds in the environment (loud, soft, high, low, near, far).	• Has strong reactions to a wide range of auditory inputs • Easily distracted by auditory stimuli • Hears things in the environment others cannot hear	• Fails to notice sounds • Seeks out intense auditory experiences

14. Hethmon and Conrad, 2020
15. Galiana-Simal et al., 2020
16. Aron et al., 1997
17. Crane et al., 2009
18. Galiana-Simal et al., 2020
19. Autism Speaks, 2025
20. Neurodivergent Insights, 2025

The Eight Senses Continued

Sense	Hyper-Sensitive	Hypo-Sensitive
Tactile (Touch) Provides information about the environment and object qualities (touch, pressure, texture, hard, soft, sharp, dull, heat, cold, pain).	• Has strong aversions to touch, clothing tags, certain fabrics • Appears to overreact when slightly bumped or touched	• Does not notice when they touch something • Does not have a good sense of pressure • Seeks pressure
Olfactory (Smell) Provides information about different types of smell (musty, acrid, putrid, flowery, pungent).	• Has strong reactions to smells • Is bothered by perfume, cologne, and chemicals	• Does not notice strong smells • Is less aware of toxins or spoiled food
Gustatory (Taste) Provides information about different types of taste (sweet, sour, bitter, salty, spicy).	• Has heightened sensitivity to food • Eats a limited range of food • Avoids social events where there is food	• Enjoys spicy foods and strong flavors • Is more alert and engaged after eating a strong flavor
Interoception (Internal Body Sensations) Provides information about the body's internal state; how we feel and understand what's happening inside ourselves and how we regulate emotional response.	• Has heightened awareness of hunger, pain, and thirst signals • Feels emotions with more intensity	• Is unaware of pain and temperature signals • Fails to experience hunger and thirst signals • Has difficulty identifying emotions
Proprioception (Muscles and Joints) Provides information about where a certain body part is and how it's moving.	• Avoids physical contact • Becomes anxious in crowded spaces or when standing close to others	• Struggles to know how much pressure to apply • Seeks out movements that give pressure
Vestibular (Balance and Movement) Provides information about where the body is in space, and whether we or our surroundings are moving; tells us about speed and direction of movement. Helps maintain balance and coordinate movements.	• Has negative reactions to a wide range of vestibular inputs	• Seeks intense or prolonged vestibular stimulation (rocking, swinging, spinning, etc.)

Social and Cultural Factors

Along with the physical work environment, certain social and cultural factors can impact the in-office experience. For many ND individuals, being in the office can come with anxiety over anticipating new or uncertain experiences or meeting new people. ND individuals often respond by masking, the practice of concealing or suppressing aspects of their ND traits or conditions to fit in with the norms of the workplace or society.[21] ND individuals mask for many reasons: self-protection, making friends and partners, and being accepted at work are just a few. Masking can be more prevalent in work environments that prioritize NT social skills, communication, and multitasking abilities—and it can come at a great cost. Masking can lead to exhaustion, isolation, poor physical health, loss of identity, delayed diagnosis, and autistic burnout for individuals with ASD.[22]

Some ND individuals may also cope with emotions and manage sensory input by stimming. Stimming refers to repetitive behaviors or motions that may be used to help cope with emotions (biting nails, twirling hair, flapping hands, tapping feet, etc.).[23] Additionally, external factors, like workplace policies and culture, can influence an ND person's in-office experience. This culmination of factors can make working in an office environment challenging for ND individuals.

A well-designed work environment with a supportive culture and policies can mitigate stress and improve worker performance. The Haworth research team's Resilience at Work study previously showed that providing individuals with the right workplace resources helped reduce stress and improve performance. This was especially true for those who had sensory sensitivities.[24]

21. Howard, 2023
22. Bradly et al., 2021
23. Neff, 2025
24. Johnson, 2020

The increase in people who identify as ND, the impact of a poor work experience on mental and physical health, and the associated costs to organizations led us to want to know more about the in-office experience of those who are ND. We sought to better understand the exclusions and adaptations that were happening in the work environment and learn how to better support not only ND employees but the workforce as a whole. We needed to establish a baseline understanding of the in-office experience for those who do not identify as ND—also referred to as NT—so we could compare the different impacts of space and policy on the groups. This led us to our research questions:

- Do ND and NT employees experience the work environment the same way?
- What are the most impactful sensory elements in the office, and what is the impact of positive and negative experiences?
- How do people adapt to their environment and manage when the workplace is not supportive?
- How do work policies, culture, job demands, and resources impact stress?

Study Objectives

Inclusive Research

To ensure our research was inclusive, with a global perspective, we sought out participants that identified as ND and represented various countries around the world. We did not require respondents to have a formal diagnosis, or disclose their neurotype, only if they identified as ND. We chose to field participants in this way due to the many barriers that can prevent an individual from seeking out an official medical diagnosis.

Multiple Perspectives

The Haworth research team completed two studies to help us better understand the workplace experience for ND employees. First, we conducted interviews with individuals who identified as ND. After analyzing the interview findings, we drew from what we learned and developed a survey to gather feedback from a broader group of both ND and NT respondents. Our survey asked how sensory elements in the environment impacted respondents, how they responded when negative or positive experiences occurred, what job aids they used, the effect of job demands, job resources, and the impact to their level of stress. Comparing ND and NT experiences allowed us to identify similarities and differences, identify barriers to inclusivity, and explore workplace strategies and design solutions to create more inclusive and supportive work environments.

Job Demands: The physical, psychological, social, or organizational aspects of a job that require sustained effort and are associated with certain physiological and psychological costs. Examples include: tight deadlines, multitasking, managing social relationships, and working in high-pressure environments.

Job Resources: The physical, psychological, social, or organizational aspects of a job that help achieve work goals, reduce job demands, and stimulate personal growth and development. Examples include: supportive colleagues and supervisors, role clarity, and access to necessary tools.

Aids and Accommodations: Tools, strategies, or modifications provided to help individuals perform their job effectively and comfortably. These might include fidget tools, noise-canceling headphones, flexible work arrangements, and sensory-friendly workspaces.

Phase 1

Interviews

We conducted virtual interviews with 27 ND participants located in five countries. The interviews focused on: participants' perceptions of the physical work environment, work experiences, job demands, job resources, feelings of stress or discomfort, policies, culture, and demographics.

Our findings indicated that ND employees experienced distractions from open-office environments, with noise, lighting, and temperature being the most frequently cited. These employees relied on work-from-home opportunities, aids like headphones, and the use of private spaces (e.g., acoustic booths) to help them work. Demands from the work environment included navigating personal and professional relationships, heavy workloads, and/or time pressure. Having a trusted supervisor and coworkers mitigated these demands, but several participants also referenced external support like religion, friends, and/or hobbies. Most of the interviewees indicated they had not asked for an accommodation, either because the needed accommodation was already provided (e.g., work from home policies) or because they feared repercussions from disclosing their ND status.

ND employees often felt their organizations were making strides in creating inclusive workplaces, but more could be done. Opportunities to raise awareness through training, providing more opportunities for distraction-reduced environments, and consistent application of existing policies were identified by respondents as primary methods to improve the in-office experience.

Phase 2

Survey

Building on the findings from the interviews, we developed a comprehensive digital survey aimed at gathering quantitative data from a larger pool of respondents representing both ND and NT employees.

This survey was completed by 1,027 (514 ND, 513 NT) people from seven countries across North America, Europe, and the Asia-Pacific region. Together, their responses allowed us to validate and expand upon the qualitative insights learned during the interview phase.

Key Insights

In this section, we present six key insights derived from our research on the impact of the physical work environment, job demands, and job resources on ND and NT employees. These insights highlight the unique challenges faced by ND individuals, the variability in workplace design preferences, the heightened reactions to environmental factors, the universal benefits of adequate job resources, and the shared human needs that contribute to overall well-being. By understanding these insights, organizations can create more supportive and inclusive workplaces that cater to the diverse needs of their employees.

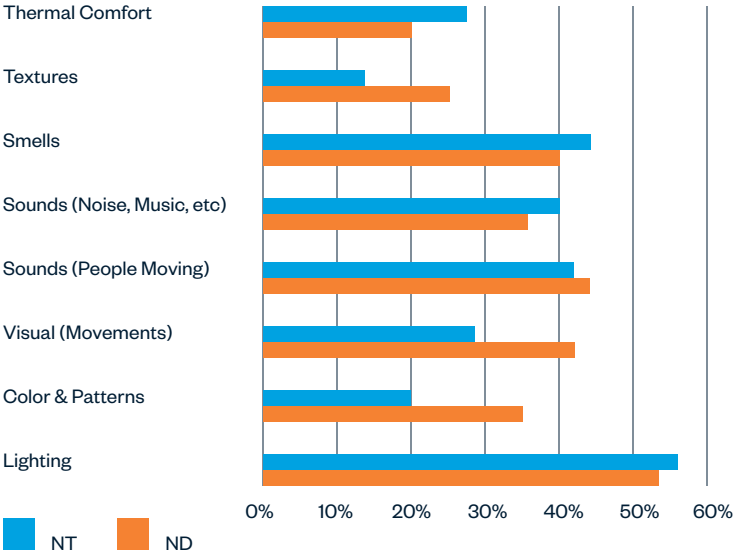
Insight 1

ND and NT workers were differently impacted by four environmental elements.

When asked what environmental elements impacted them the most during a typical workday (either positively or negatively), significantly more ND employees than NT workers responded they were impacted by colors and patterns (visual), people walking by in direct or peripheral vision (visual), and textures of surfaces they interact with (tactile). Conversely, significantly more NT workers responded they were impacted by thermal comfort (tactile).

> "Light is a big one. Fluorescent lights in the office can be distracting and give me headaches. I prefer warmer, natural light and desk lamps. Noise is an issue also. I need background noise but not too loud. Too quiet or too loud makes it hard to concentrate."
>
> Interviewee, United Kingdom

Workplace Environmental Element Impacts



Question: Which of the following elements impact you most during a typical workday?

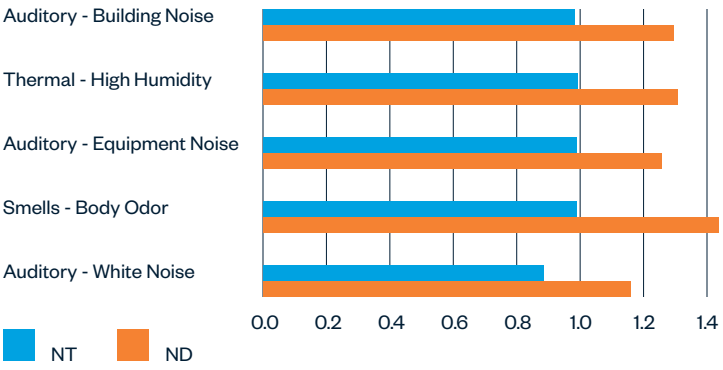
The remaining listed workplace environmental elements impacted ND and NT respondents relatively equally: 54.3% of participants were impacted by lighting (visual), smells (42.1%), the sound of people moving (auditory – 41.8%), and other sounds (auditory – 37.7%).

Insight 2

Neurodivergent employees demonstrated greater variability in their responses to environmental elements than NT employees.

Compared to NT employees, ND employees demonstrated greater variability in their preferences and experiences with environmental elements. We used standard deviation to indicate variability in the impact of environmental elements on workers.

Environmental Elements by Standard Deviations



Question: Generally, how do the following elements impact your work performance?
Standard deviation between ND and NT responses shown.

Higher standard deviations mean more extreme responses (i.e., more negative and/or more positive), whereas lower standard deviations mean more neutral responses. ND employees showed higher variability than NT employees across elements such as lighting, temperature, smells, and noise. This means that ND employees were more impacted by these elements—in both directions—than their NT counterparts.

With additional analyses, we investigated how different work activities were impacted by spatial elements, and found individual focus work was the most impacted—negatively or positively—across all elements.

To explore this relationship further, we looked at:

(A) Which elements had the most impact during a given activity.
(B) How this relationship differed between ND and NT employees.

Individual Focus Work

ND employees were more impacted by lighting conditions and the sound of other people moving than NT employees.

Individual Routine Work

ND employees were more impacted by auditory cues, including ambient sounds such as colleagues' movements through the workspace, building infrastructure noise (HVAC systems, elevators, etc.), and background music had greater impact on ND employees.

Individual Restoration

ND employees were more impacted by the sound of people moving, other noises (building noise, background music, equipment noise, etc.), and thermal comfort than NT employees.

Group Collaboration

ND employees were more impacted by lighting conditions, stimulation created by colleagues' movements (both auditory and visual), and conversations within shared spaces.

Group Restoration

ND employees reported multisensory impact, identifying significant influence from lighting conditions, visual movement of others, auditory stimuli (including conversations and ambient background noise), olfactory inputs, and tactile experiences from various textures.

Overall, we observed that there is a nuanced relationship between neurodiversity, activities, and spaces, but that ND felt more impacted by the environment across most activities than NT.

Insight 3

A positive experience with an individual's physical workspace fosters feelings of support.

When the physical work environment was perceived as positive, both NT and ND employees felt their stress and anxiety were reduced and they were able to gain focus. NT were significantly more likely to become relaxed, which could mean that even a supportive work environment is not enough on its own to aid in relaxation for ND employees. ND were, however, significantly more likely to say their frustration and anger was reduced when compared to NT employees.

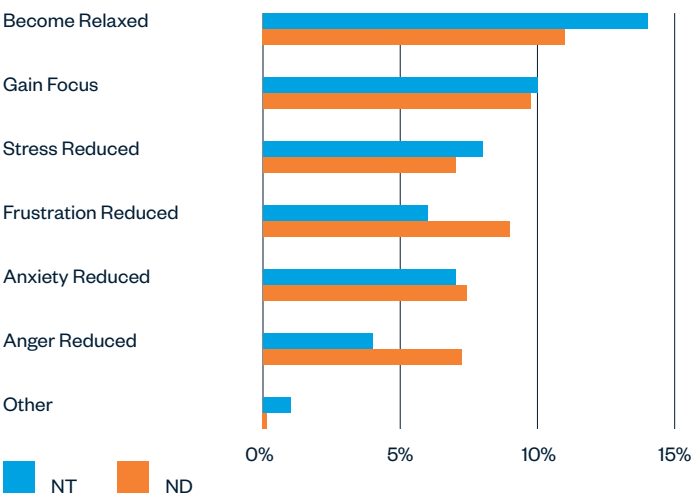
Conversely, when the work environment was perceived as a negative experience, significantly more ND employees reported heightened feelings of frustration, anxiety, stress, fixation on sensory causes, and anger. This finding was supported by what we heard in the interviews. Some interviewees noted that once they lose focus due to an environmental distraction, they have a difficult time getting back to work, which causes feelings of anger and anxiety. On the other hand, if the environment was supportive, they enjoyed being in the office and connecting with coworkers.

> "My biggest motivation to go to work is actually to socialize. The office environment is always better than my home working condition. There is less noise, with ergonomic furniture."
>
> Interviewee, China

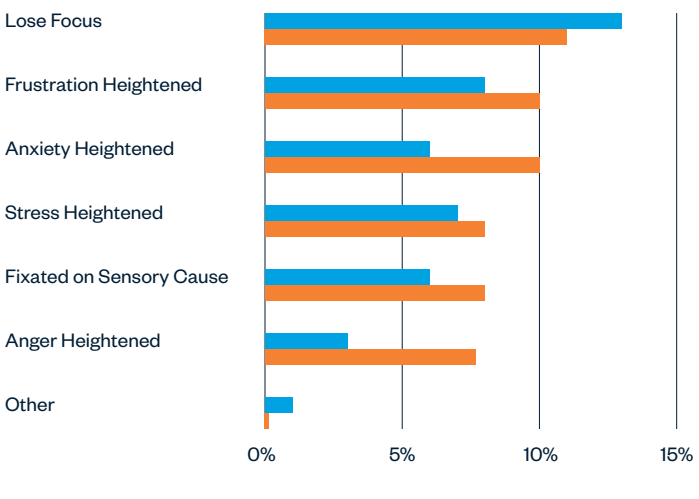
Next, we wanted to know what people did to manage when their environment wasn't supportive. NT employees were more likely to ignore what was bothering them. Both NT and ND employees would find an alternative space, stay and self-regulate in the space, ignore it, or go for a walk. **Where we saw significant differences was with ND workers who chose to avoid the office, leave the office, or use headphones.** Interviewees gave context to this, stating that that one of the most desired accommodations, or way a company can support ND employees, is to have a flexible work policy that allows them the autonomy to work from home when needed. Others stated the importance of being able to get up and move, take a walk, or leave the building.

Postive/Negative Experiences Related to Environmental Elements

Positive Reactions



Negative Reactions

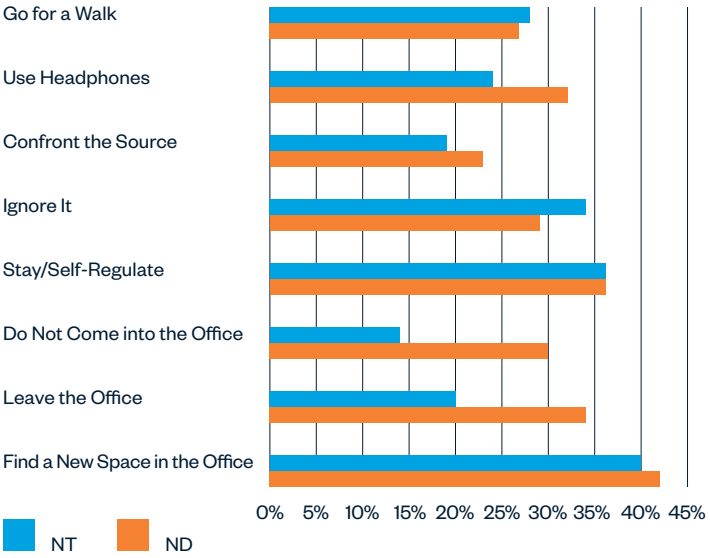


Question: In general, if you have a positive/negative experience related to an environmental element, what is your reaction?

34% of neurodivergent workers coped with negative events by leaving the office, compared to 20% of NT workers.

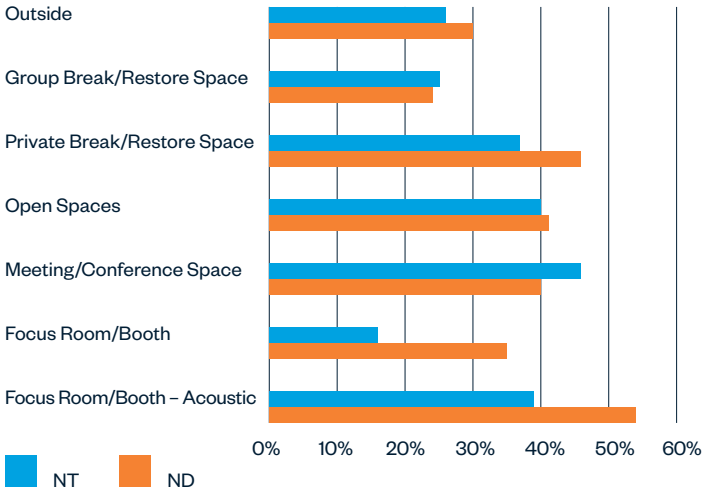
If they remained in the office, ND employees were slightly more likely to seek out an alternative space when a negative event happened in the office. The number-one space choice was a focus room/booth with acoustic properties. However, ND employees sought out a wider variety of space types than their NT peers.

Managing Environemental Elements



Question: What do you do to manage when the environmental elements are not supportive?

Spaces to Seek Out



Question: What type of space do you usually seek out when the environmental elements are not supportive?

> "After a long sequence of meetings, I give myself five minutes to breathe, disconnect, do relaxation and cardiac coherence, to refocus my brain… before going back to another meeting."
>
> Interviewee, France

Insight 4

More ND employees than NT use work aids to help them manage their workday.

When interviews with ND employees were conducted, we heard having access to different job aids and tools had value. Interviewees referenced using height adjustable tables and ergonomic task chairs to help support movement throughout the day. Other answers we heard frequently were using noise-cancelling headphones, taking walks, having the autonomy of decision-making, and a flexible schedule.

In the survey we expanded on this and included aids and tools that could either be employer or user provided, like workstation booking, digital scheduling, a supportive dress code, fidgets, blankets, and the more intangible means of support like autonomy and flexibility. Responses from the survey aligned closely with our interview findings, confirming that for both ND and NT employees, adjustable task chairs were valued job aids. We start to see differences when we look at the higher number of NT workers who feel like they do not have a work aid, and they do not need it. There is also a higher percentage of ND employees who have access to aids—including an adjustable task chair—but they say the aids do not help them. This could mean that although aids can be helpful, there are certain aspects of working in the office environment that cannot be overcome by providing work aids.

Overall, everyone in the workplace can benefit from signage to help navigate the workplace and digital scheduling of rooms. However, more ND respondents use work aids compared to NT. Collectively, ND also feel they can benefit from having more aids available to them, especially workstation booking to reserve a space ahead of time, phone/tablet applications, headphones, fidgets, blankets, and fans.

Work Aids

Insight 5

NT and ND workers had similar levels of agreement that workplace policies were in place and helpful.

Our research examined four workplace policies:

1. Ability to use flexible scheduling (when to begin/end a day, leave the office if needed)
2. Ability to work remotely
3. Autonomy in decision making in their job role
4. Autonomy in work environment (able to move/change space if helpful)

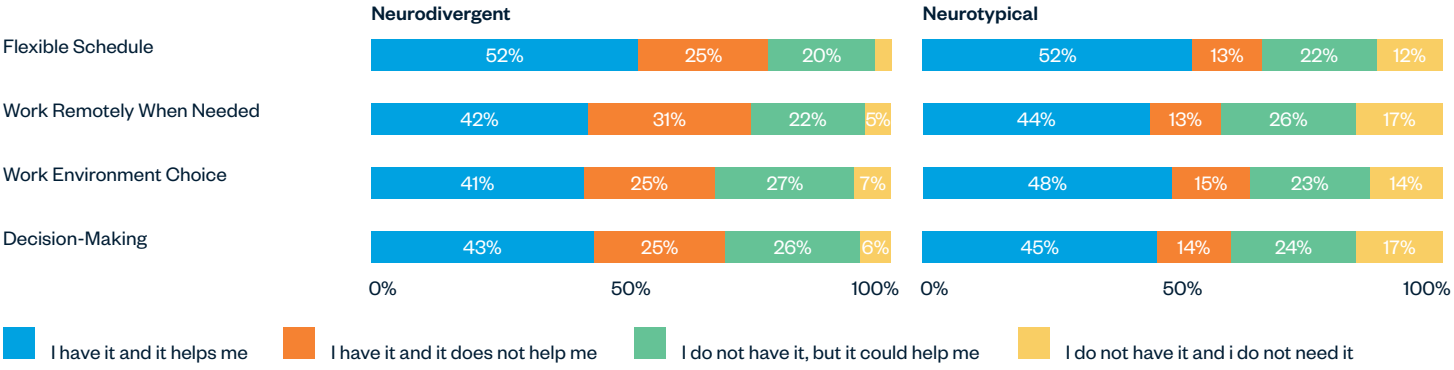
> More NT employees reported they did not have these four policies and did not need them.

NT and ND employees endorsed the helpfulness of these policies at the same level (these policies are in place and they find them helpful); differences emerged when asked if they have these policies and they don't help, or if they don't have these policies and don't need them. Significantly more ND employees than NT reported having these policies, but they did not help.

Interview respondents gave additional context, with many saying while the company's policies on paper were seen as supportive, the actual practice of these policies varied depending on individual groups and leaders. This indicates a gap between policy and practice. Interviewees reported that having clear policies and guidelines helped them understand their roles and responsibilities better, in addition to helping them focus on tasks. While they valued clear, supportive policies that offer flexibility and understanding, implementation and communication of policies could vary, and that caused feelings of anger, anxiety, and sadness.

Together, the survey and interview findings indicate the possibility of an equity gap for ND employees in the usefulness and application of policies, and a one-size-fits all approach may not be best. Additional research is needed to delve into the intricacy of policy support.

Workplace Policies



Insight 6

When faced with job demands, ND employees experience significantly higher levels of stress than NT, and supportive policies and workplace environment have a greater impact on mitigating stress for ND than for NT.

When we conducted interviews, we heard about how job demands affected ND employees. So, in the survey, we wanted to better understand the impact of job demands and resources on stress and see if it was the same for ND and NT employees.

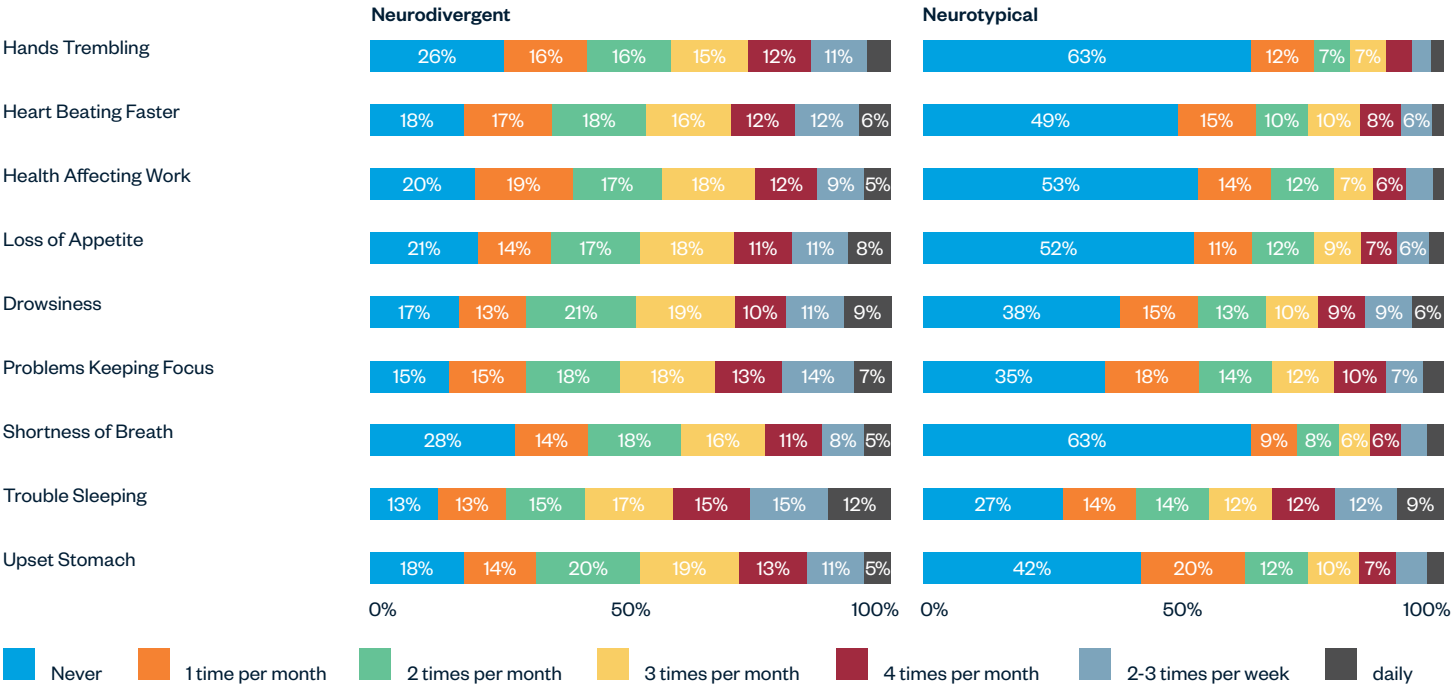
> "Stressful upcoming demands—that's time pressure. And sometimes conflict between individuals or teams in the environment around you."
>
> Interviewee, Australia

Looking at the relationship of job demands and stress, our research revealed ND employees reported higher stress levels than NT employees. Specifically, ND employees experienced significantly higher stress when confronting workplace demands such as tight deadlines, multitasking requirements, complex social dynamics, and high-pressure environments compared to their NT colleagues.

However, we also found the positive relationship between certain job demands and well-being was significantly stronger for ND employees than NT employees. This could indicate that certain demands align more with ND employees' cognitive strengths or that these employees have created ways to effectively manage these demands through supportive relationships with their supervisor or coworkers, as well as clarity in their role's tasks and expectations.

Well-being components related to the physical environment and policies also had a stronger positive relationship for those that were ND than NT, indicating the importance of job resources as tools for supporting ND workers. We also heard from interview respondents that creating a supportive environment, recognition of success, and opportunities for growth are valued.

Stress by Neurodiverse Status



Recommendations

Working in the office has many benefits for individuals and organizations, but there are challenges as well. Through secondary research and interviews with ND employees, we learned more about the impact unsupportive workplaces could have on the ND population. What was unclear was if the same challenges and impact were felt to the same level by NT individuals.

Our evidence from this study strongly suggests creating an inclusive environment through thoughtful space design, spatial variety, user control, and workplace policies like autonomy and flexibility can be beneficial to all workers and have an even greater impact on reducing stress for ND individuals.

What follows is a list of recommendations we feel can help to create an inclusive, supportive workplace.

Physical Work Environment

While there are many elements respondents feel can impact their experiences, the main elements to consider for the benefit of all are lighting, sounds of people moving through the space, other building noises, and smells. When considering the ND experience, colors, patterns, and the visual elements of movement, as well as the tactility of objects also have an impact.

Since we learned there is greater variability in the ND experience and the perceived positive or negative impact, that means there is no one-size-fits all solution, and different options should be provided for a wide variety of needs. This is especially relevant when we understand the significant impact having a positive or negative experience due to the physical work environment can have a on ND employees. Interviewees spoke about the need to take breaks to participate in a variety of restorative activities like going for walks, breathing and meditation activities, and connecting with friends and coworkers. The workplace should support these needs by providing the right spaces, flexibility, and autonomy to self-select where employees need to go. While many of the same design principles can apply to spaces that support restoration, it's important to pay even closer attention to the lighting levels, visual patterns, and tactility of furnishings and materials used. In addition, ensure there are multiple space types of various enclosure levels to support hyper- and hypo-sensitivity, as well as sensory seeking.

> "When a flower doesn't bloom, you fix the environment in which it grows, not the flower."
>
> **Alexander Den Heijer**

Considerations for Planning and Design

Successfully integrating sensory-friendly design starts with understanding the needs of ND employees and if possible, inviting them into the design process. This can help ensure the design choices contribute to a comfortable and inclusive environment for everyone, including ND individuals.

- When deciding on a layout, consider how the space should be zoned to help support a variety of sensory needs. Adjacencies are important when creating zones and boundaries that indicate activity level, and in some instances, isolating sensory elements. The more clearly spaces are defined, the easier it will be for people to understand how to use the space and where to seek out the spaces they need. For example, if there is a quiet zone, ensure it is free from auditory and visual distractions that could be happening in a more active zone.
- Consider smells from things like food, cleaning chemicals, and manufacturing processes. If possible, isolate areas that contain smells that could cause negative reactions. Proper ventilation and air flow can also aid in the removal of unpleasant smells.
- Organize spaces with clear navigation cues and structured layouts. This includes signage for navigating through the space. It can also include other legibility cues like architectural differentiation, landmarks, and visual access. The goal is to aid in navigation to reduce confusion and the potential stress of not knowing how to move through and use the space.
- Consider how noise levels can be managed and controlled by the employees if there are no dedicated quiet or active zones.
- Provide a variety work settings to meet the needs of different work activities like focus, collaboration and restoration, while also addressing different sensory preferences along the continuum from hypo- to hyper-sensitivity.
- Give user control and choice over lighting levels, sounds, and air flow. Consider the use of smart building technologies for this.
- Give opportunities for movement by providing height-adjustable desks and ergonomic tasks chairs.
- Provide digital booking tools to aid in space reservations.

Considerations for Environmental Elements

Visual – Lighting

- Allow access to natural light whenever possible, but provide areas of respite away from bright lights—either natural or artificial.
- Avoid overly bright lights, and cool lighting color temperatures (4,000–5,000K).
- Add workspace task lamps that have dimming and color temperature control.

Visual – Colors & Patterns

- Avoid high-contrast patterns.
- Consider the color palettes used in different spaces. If a space is more aligned to support hyper-sensitivity, use calm, muted colors. If the space is supportive to hypo-sensitivity or sensory seeking, use more vibrant, bright colors.

Visual – Movement in Direct Line of Sight or Peripheral Vision

- Consider screening elements with user control to block views in an open environment.

Auditory – Hearing

- Minimize distractions of equipment noise and building noise by planning adjacencies to eliminate conflict.
- Provide a variety of spaces individuals can retreat to when distractions like the sounds of people talking and moving through the space are too overwhelming. Spaces could be individual acoustic pods or enclosed touchdowns.
- Use materials that reduce sounds, like acoustic panels, lighting, soft materials, carpet, or rugs.
- Consider the use of sound masking to neutralize background noise. This could be white noise, pink noise, or even biophilic sounds.

Olfactory – Smell

- Neutralize material smells by following protocols for material off-gassing when bringing in new furniture and finishes.
- Consider air flow and return to ensure smells like perfumes, cologne, and body order are eliminated as quickly as possible.
- Isolate areas that contain smells, like food service stations, copy rooms, or cleaning service spaces.

Tactile – Touch

- Consider materiality when selecting surface finishes and avoid rough, scratchy materials on high-contact surfaces.
- Ensure thermal comfort by maintaining high air flow circulation and low humidity.
- Give individuals control over ventilation to increase or decrease the airflow in their space.

The work environment and policies should also consider what tools and job aids are given by the organization, and which ones employees can provide for themselves.

Company-provided tools that can support ND and NT employees include digital planning and booking aids that help with legibility, wayfinding, and planning out an individual's day. Height-adjustable tables and ergonomic task chairs are also helpful, providing comfort and supporting movement that gives sensory input for those who need it.

Helpful employee-provided tools include headphones, fans, fidgets, and blankets.

Workplace Policies and Culture

In addition to the physical work environment, the overall culture and policies of the organization play a big role in supporting employees, particularly ND employees.

Creating flexibility without permission may be important, thereby reducing the need for the ND employee to self-disclose their neurotype. For those who have disclosed, creating focus groups to better understand use and opportunity to craft helpful policies may also be assistive. During our interviews, we also heard that employee resource groups that support mental health and neurodivergence can be valuable and help foster a sense of connection with others in the organization.

Understanding the unique relationship between job demands, job resources, stress, and well-being for ND workers is crucial for creating more supportive workplaces. Extending our findings and connecting to policy-related equity gaps (insight 5), we recommend that employers implement strategies to mitigate stress, such as flexible work arrangements, clear communication around job expectations, and improved internal support systems. Addressing these specific needs can decrease the stress associated with perceived job demands. Based on our findings, employers should focus on enhancing support systems, ensuring equitable enforcement of company policies, providing access to necessary tools, and promoting growth and relationship-building opportunities. By doing so, organizations can improve well-being for their employees.

The "Far" Senses

While this study did not focus specifically on the vestibular, proprioceptive, and interoceptive senses, they play an important role in helping us understand where our bodies are in space, how we're moving through space, and what our bodies need to stay regulated.

Support for these three senses can be achieved by considering the overall layout of the space.

Ensure major walkways are wide and free from sharp corners.

Provide spaces to support self-regulation, which could include movements like rocking, spinning, or dancing and restorative activities like meditation, yoga, mindfulness, and reading.

Conclusion

There are many factors in the workplace that are vital in reducing stress and enhancing resilience at work, particularly for ND individuals who may experience heightened sensitivity to environmental stressors and lack of clear policy support. By providing adaptable workspaces that cater to diverse needs, organizations can significantly mitigate these stressors and support the well-being of employees. In doing so, organizations can enhance the well-being of all employees while successfully leveraging the strengths of their ND population.

As our second study on workplace resources, our findings reaffirm the importance of a well-designed workplace in fostering inclusivity and productivity. Both studies provide clear evidence that improving the working environment not only promotes a better culture of inclusivity but also enhances the overall employee experience and performance. The neurodiverse population brings unique perspectives and strengths to the workplace, making it imperative for organizations to create environments where all employees can succeed and thrive. Our findings provide actionable recommendations to support ND and NT workers, ensuring everyone has the resources and support needed to excel in their professional roles.

Designing for inclusivity means creating spaces that support the range of neurodiversity, supporting ways different people think, work, and interact. Sensory needs, flexibility, and choice all play a role in fostering environments where everyone can thrive. As organizations prioritize inclusivity, workspaces must adapt to offer focus, comfort, and connection for all. Our findings provide actionable recommendations to support ND and NT employees to ensure they can succeed and thrive in their professional roles.

Glossary of Common Neurotypes

Neurodivergence encompasses a range of neurological differences, including but not limited to:

Anxiety
A mental health condition characterized by persistent worry, fear, or unease that can affect daily functioning and decision-making.

Autism Spectrum Disorder (ASD)
A developmental difference that can impact communication, behavior, sensory processing, and social interactions.

Attention-Deficit/Hyperactivity Disorder (ADHD)
A pattern of inattention, and/or hyperactivity and impulsively that can affect functioning and development.

Auditory Processing Disorder
A condition that affects how the brain processes and interprets sound, particularly speech.

Down Syndrome
A genetic condition causing developmental and intellectual variations, often accompanied by distinct physical characteristics.

Dyscalculia
A learning difference that impacts understanding of numbers and mathematical concepts.

Dysgraphia
A neurological condition affecting fine motor skills and handwriting ability, making written expression challenging.

Dyslexia
A learning difference that primarily affects reading, spelling, and sometimes speaking or writing.

Dyspraxia (Developmental Coordination Disorder)
A condition affecting physical coordination, planning of movements, and sometimes speech.

Epilepsy
A neurological disorder characterized by recurrent seizures and electrical disturbances in the brain.

Intellectual Disability
A condition characterized by limitations in intellectual functioning and adaptive behavior that appears before age 18.

Obsessive-Compulsive Disorder (OCD)
A condition characterized by recurring, unwanted thoughts and repetitive behaviors or mental acts.

Post-Traumatic Stress Disorder (PTSD)
A mental health condition triggered by experiencing or witnessing traumatic events, affecting memory and emotional regulation.

Tourette Syndrome
A neurological condition characterized by involuntary movements and vocalizations known as tics.

Authors

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